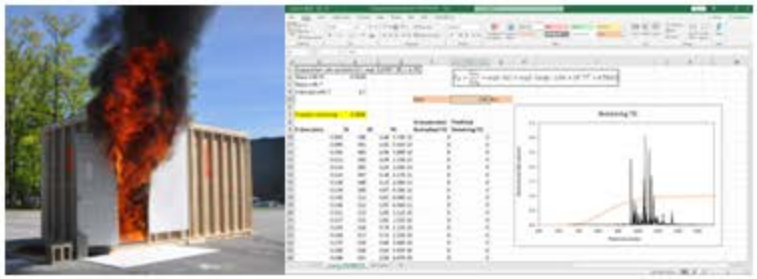
Forensic and Analytical Chemistry

Our research focuses on improving current methods for the analysis, characterization, and identification of forensic evidence, while ensuring that such methods are directly transferable to forensic laboratories



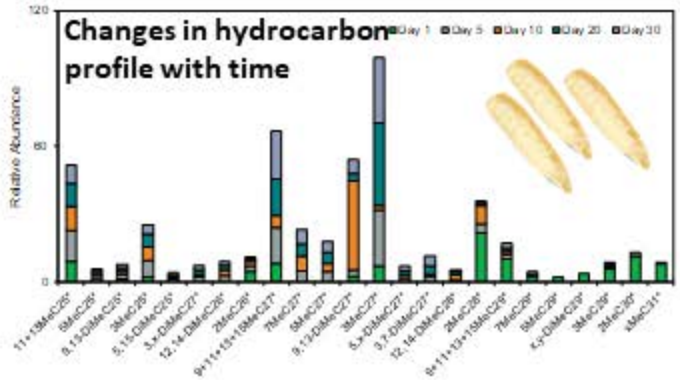
Summer projects include:

Evaluating kinetic models to predict ignitable liquid evaporation

- Focus is on the development and validation of kinetic models to predict evaporation of ignitable liquids. Students will gain experience in using GC-MS, data interpretation, and kinetic modeling.

Determining post-mortem interval based on cuticular hydrocarbons

- Focus is on developing classification models to predict post-mortem interval based on cuticular hydrocarbons present on larvae invading decomposing remains. Students will gain experience in optimizing extraction methods, using GC-MS, and developing classification models.



Leveraging stable isotope analysis to fingerprint chemical threat agents and for food authentication

- Emphasis is on method development and validation for using newly acquired, advanced mass spectrometry instrumentation to track forensic signatures into synthesized and plant-based chemical agents or foods.